

a model OPERA HOUSE

The Sydney Opera House, Australia's most iconic building – and one of the busiest performing arts centres in the world – has entered the digital age, thanks to a research project recently completed by the CRC for Construction Innovation.

In collaboration with leaders of Australia's Facilities Management (FM) industry, Construction Innovation has used digital modelling technology to develop a visual representation of the building that can draw together structural information regarding elements of the building and objects within, such as lifts, ventilation and fire systems.

"The key benefit of this approach is the development of a single repository of integrated, intelligent data about the Sydney Opera House," said Professor Keith Hampson, CEO of Construction Innovation.

Because the Sydney Opera House was designed and constructed well before the advent of computer-aided design (CAD) systems, the main source of information about the building exists only in paper form. However, the completed building varies from these original drawings and there is no integrated documentation which incorporates the many service changes made over the years.

Sydney Opera House is now over 30 years old and major upgrades are needed, which require accurate information for new developments and operations.

"The digital model can incorporate building proposals and data on properties such as energy, cost and operations," Professor Hampson said.

The integrated FM digital model incorporates data from a range of software systems, hard copy information and new model-based systems by way of an open exchange standard.

The work was undertaken by a Construction Innovation project team comprising the Facilities Management Association of Australia, Transfield Services, Rider Hunt, Woods Bagot, Sydney Opera House, Brisbane City Council, Queensland Department of Public Works, CSIRO, the University of Sydney and Queensland University of Technology.

Professor Hampson said the intent of the project was to use the uniqueness and complexity of the Sydney Opera House to develop a body of knowledge which will inform the basis for future innovation, learning and standards with applications for the broader FM industry.

More information is available at www.construction-innovation.info

